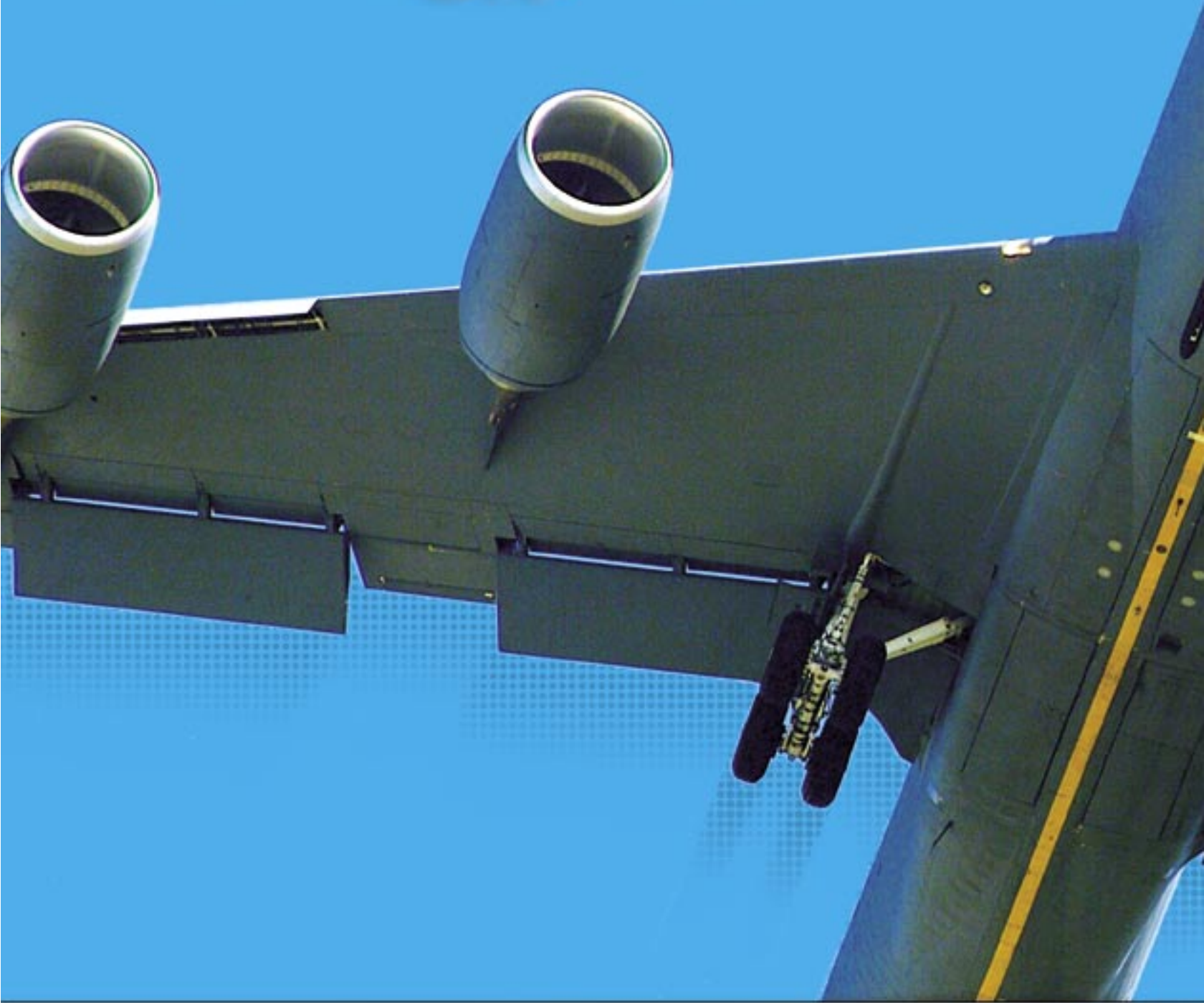


# ON *COURSE* ON *GLIDE* PATH

By Maj Graham Whitehouse, 64 ARS, Portland ANGB, Ore.





**M**y crew and I were recovering our KC-135 into Nellis AFB, Nev., after participating in a rather uneventful Red Flag sortie on the Red Air side. It was mid-afternoon, the skies were clear, the descent checklist was complete, and Nellis was landing on a runway that did not require an aggressive noise-abatement descent. The last of the fighters was just landing, and there was only one other aircraft for us to be sequenced behind before I could do my planned visual straight-in to a full-stop landing. I recognized the

other plane's call sign, Hydra 37. It was a tanker from my squadron, which had been refueling Blue Air. There was going to be no problem matching speeds to deconflict the arrival. In short, a smooth end to a smooth sortie.

From an extended visual downwind, we picked up a vector for sequencing behind the other tanker. Around this time, Air Traffic Control (ATC) called to see if we could do a Precision Approach Radar (PAR) approach for them. Knowing how rarely Nellis grants instrument approaches, I figured they must be making the request for controller training. "Sure, we can do that," I replied. PARs are pretty hard to get these days. Anyway, the radar controller probably needed the practice. ATC set us for about a 15-mile base to final.

I configured the aircraft with gear down and flaps at 30 degrees, which is the intermediate setting we normally use until we put in full flaps at glideslope intercept. We got turned to final and performed the standard controller-aircrew communications ("Do not acknowledge further transmissions, heading 203..."). Before long,





the controller instructed us to begin descent. This caught me a little off guard, but I chalked it up to my not having own a PAR approach in ... how long had it been? Six months? A year? I called for full ops and lowered the nose to pick up the glidepath.

It wasn't long before things started looking a bit strange. We were being told that we were "on course, on glidepath," but it still didn't look right. The runway was abnormally far off to the left side -- OK, I was cheating by looking out the window -- and it seemed to me that we were low. I now saw 12 miles on the Distance Measuring Equipment (DME). I knew the terrain steeply rose off this end of the runway, but I wasn't too concerned because the weather was totally clear, and I had the ground in sight.

"On course, on glidepath" continued to be the guidance we heard from the PAR controller. Still, it felt uncomfortable. I'd been slowly shallowing my descent, but we now looked really low, and we weren't any closer to the runway centerline than we had been a minute before. I decided to level off until we intercepted a more normal glidepath.

ATC again repeated, "on course, on glidepath." How can that be? I looked at the DME (7.5 miles from the field) and the radio altimeter read 730 feet! -- What am I doing that low? I looked out the window and there was now a small mountain between me and the right runway, although I could barely make out the approach end of the left runway. I decided to continue flying visually.

After another minute or so of flying level at 700 feet above ground

level, there were the controller's words yet again "on course, on glidepath." I corrected towards the approach end and called the controller.

"We've been level for the last 3 miles or so, and you're calling us on the glidepath. I think you need to recalibrate your equipment. We'll take over visually from here." The controller acknowledged and handed us off to tower. As we lined up with the runway, we saw Hydra 37 on landing roll out. "Maybe the controller was looking at the wrong airplane on the scope," my copilot suggested.

A telephone call to radar approach control after we landed confirmed that this had indeed happened. The PAR controller had mistaken Hydra 37 for us, and since they were following the course and glidepath to the same runway (although on a visual approach), it looked like they were following the controller's instructions. The watch supervisor promised me he'd look into the situation and take whatever remedial action was necessary. It was only then that the full gravity of the situation struck me: If we hadn't been in visual meteorological conditions, they could have vectored us right into the ground, and the PAR controller would not have known it was even happening until after our emergency locator transmitter started going off.

I began reviewing the approach in my head and recognized a few things that I could have done differently that would have helped me to recognize the problem earlier:

I didn't back up the PAR with another instrument approach. Full-scale glideslope and/or course

de edctions would have been hard to ignore or write-off to poor controller proficiency. Besides, while Air Force Manual 11-217V1, *Instrument Flight Procedures*, does not quite require a backup approach, it strongly suggests the use of one in case communications are lost. If I still wanted to avoid “cheating” on the PAR, I could have had the copilot monitor the instrument landing system.

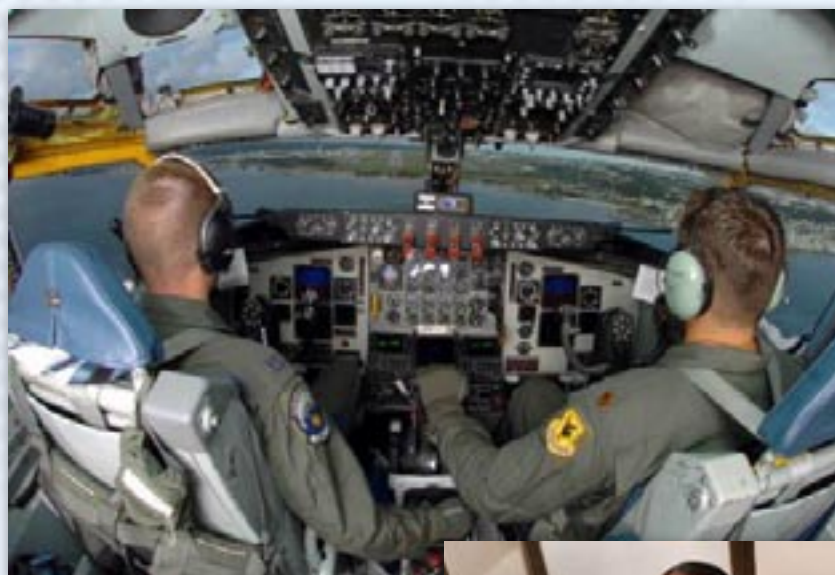
I didn’t set limits of what deviations I would accept ahead of time. It’s hard to quantify course and glidepath discrepancies visually, but once there’s an instrument approach procedure to look at it becomes a lot easier. For example, limits like one dot to the left or right of course or below glidepath or no lower than the minimum descent altitude/step-down altitudes for non-precision approaches would have kept me out of trouble. Once I found myself approaching those limits, I would have then transitioned to the backup approach, made the necessary corrections, and told the controller what I was doing.

I didn’t fully brief the approach when it was given to us. Sure, it was clear and a million. Yes, I was familiar with the airfield and the surrounding terrain. Both of these facts certainly kept me from ying the jet into the rocks, but habit patterns are what keep us alive when the weather’s down to minimums and there’s no room for error. By looking at the approach ahead of time, I could have figured out approximate altitudes and DMEs to use as targets. If I had done this, I would have recognized that the “begin descent” call was too early. Even if I had been ying to a radar-only

airfield with no other navigation aids or instrument approaches, I could have used the ight man-agement system as a backup to maintain maximum situational awareness.

I disregarded the warning signs I did have and was too willing to put my fate in the hands of the PAR controller. The first clue should have been that I wasn’t prepared for the “begin descent” call. At the time, I thought I had just gotten behind the jet. My next clue should have been when it became obvious that we were neither on course nor on glidepath. Again, at the time I just figured the controller was out of practice or maybe this approach was designed differently because of the terrain off the approach end. In fact, I already knew that precision instrument approaches have to be aligned with the runway heading and if they can’t meet terrain clearance criteria, then they just don’t build a precision approach there. Finally, it was a clear sign that something had already gone wrong when we saw the mountain between the airfield and us.

It is true that a few other factors would have had to be present in order for our situation to have turned really serious. The most obvious one is if the weather had been down near minimums. In that case, perhaps ATC



would have handled their sequencing and radar identification differently.

Even if the weather had been poor, maybe our Ground Proximity Warning System (GPWS) would have clued us in early enough for us to recognize what was happening and go around. Nobody I know, though, ever wants to be in a position where they have to find out just how good that GPWS really is.

My crew and I came away from the experience with a new appreciation for the extent to which we routinely put our trust in other people outside the jet to do what’s right for us. We also have a better sense of where and how we should place limits on that trust. In the future, I’ll trust that people will do their jobs correctly, but I will also establish boundaries to remain within and have a plan for how to recover when those boundaries are exceeded. ✈